

NEW FLEAS AND RECORDS FROM THE WESTERN STATES

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There are before the writer at this time two new pocket gopher fleas from the State of Washington, several new collection records from Washington and Oregon; a new flea which is from Kern County, California and two new fleas found east of Death Valley, California, through southern Nevada and into northwestern Arizona and southwestern Utah.

WASHINGTON: The writer has before him at this time two new pocket gopher fleas from Washington State. Mr. Al W. Moore working in extreme southwestern Washington took a series of new fleas off pocket gophers which he sent to the writer. This new flea shall be called

DACTYLOPSYLLA MOOREI, a new species

Before the writer at this time are the holotype male and allotype female, a paratype male and two paratype females. The new species seems to fall midway between *D. comis* Jordan and *D. pacifica* Hubbard, but differs from them in the shape of the process and finger in the male and the apical outline of the VII sternite and its armature in the female.

Modified Segments: male. The process of the clasper is not finger shaped as in *comis* and *pacifica* but somewhat dome shaped and apically inclined towards the anterior. The finger of the clasper is evenly rounded apically while *comis* is hooked and *pacifica* is expanded. The anterior border is widened about half way down by a triangular process. The armature of the finger consists of a short spike at the apical anterior angle, two medium bristles slightly below posterior apical angle and midway down the posterior border a small bristle.

Female. Apical outline of the VII sternite undulate, the armature consisting of 30 or more bristles to the side, 10 of which are stout. The spermatheca is typical for the series and has the oval body, the crooked appendix and the apical appendage.

The new flea is large, as are all the giant pocket gopher fleas, both male and female measuring 4 mm. in length.

The type locally as established by Mr. Moore is 12 miles northeast of Cathlamet, Wahkiakum County, Washington where on May 27, 1949 he took the fleas off what he designates as a new subspecies of *Thomomys talpoides*.

Depositories: The types are deposited in the National Museum, the first pair of paratypes in the British Museum and the remaining female paratype in the Los Angeles County Museum.

The new flea bears the name of Mr. Al W. Moore of the Portland, Oregon office of the Fish and Wildlife Service.

Engaged in plague suppressive measures in central Washington Dr. C. W. Clanton of the Washington Department of Health removed two female fleas from Norwegian rats. These are doubtless true pocket gopher fleas. The writer finds them to be new. They shall be called

FOXELLA IGNOTA CLANTONI, a new subspecies

The 2 female fleas before the writer have a genal armature different from other *ignota* but seem to fall between *F.i. franciscana* Roths. from southern Oregon and California and *F. i. recula* J. and R. from the Pacific Northwest.

Head: Well rounded, the gena with two rows of bristles. The lower row consists of 2 long bristles, close together and next to antennal groove, then a short bristle midway between the margins and at the margin dropped out of line and below the longest bristle of the 4. The upper row is of 5 bristles, medium and evenly spaced. Postantennal region with one long, major bristle and a marginal row of a short, 2 very long and 5 medium bristles evenly spaced. Small bristles along antennal groove.

Modified Segments: The apical outline of the VII sternite of the female consists of a rounded lobe below, and above it the face is undulate. Armature consists of 6 major bristles and about as many minor bristles in an anterior row. The spearmathea is typically *ignota* but small for the size of the flea. It consists of the globular body, the crooked appendix and the well defined appendage.

The 2 females under study measure about 3 mm. in length,

Dr. Clanton secured these fleas off *Rattus norvegicus* (Norwegian rat—probably chance host) 4 miles east of Odessa in Lincoln County, Washington on July 7, 1949. The holotype female is deposited in the National Museum, the paratype in the British Museum.

During his plague investigation in central Washington Clanton removed from the Sagebrush Vole (*Lagurus c. pauperrimus*) two new fleas described earlier this year by the writer as *Megabothris clantoni* and *Thrassis gladiolis johnsoni*. These were delivered to the Plague Suppressive Measures Laboratory of San Francisco

for plague reaction and to the writer for determination. Hundreds of them were available. Dr. Murray Johnson, physician and surgeon of Tacoma, Washington, working with Clanton for relaxation, secured specimens of the Idaho Pigmy Rabbit (*Brachylagus idahoensis*). The fleas were sent to the writer. The entire lot consisted of *Cediopsylla i. inaequalis* Baker. This flea is not new to Washington but the host record is the first for the State.

OREGON: The number of species and subspecies of fleas in Oregon has remained at 90 for a number of years. Recently, however, two new records have been added to the list. The writer has uncovered *Epitedia stanfordi* Traub in much of eastern Oregon. Mr. R. C. Erickson of the Malheur Wild Life Refuge sent to the writer specimens of fleas collected out of duck nests in the area. These were determined as *Ceratophyllus garci* Roths. a bird flea not yet recorded from Oregon. Specimens of the Idaho Pigmy Rabbit collected in Central Oregon by members of the Biological Survey were carrying fleas identified by the writer as *C. i. inaequalis* Baker and *Odontopsyllus dentatus* Baker. The host record is new for Oregon.

As new from Oregon at this time the writer wishes to describe

NEARCTOPSYLLA JORDANI TRAUBI, a new subspecies

There are before the describer at this time the holotype male and allotype female and seven paratype females. The new flea is close to *Nearctopsylla jordani* Hubbard 1940 from which it is separated and from which it differs in the male in the armature of the IX sternite. Whereas in *N. jordani* this armature consists of orderly arranged stout bristles in *N. j. traubi* the arrangement is unorderedly and the bristles are both stout and long curved, mixed. In the female the VII st. outline and the spermatheca differ from *N. jordani*. In the new flea the outline of VII st. has two sharp processes close together, the shorter one below. *N. jordani* has but one of these processes. The spermatheca of *N. jordani* has body directly running into appendix but in *N. j. traubi* the body is shorter and is definitely cut off from the appendix by a constriction. The appendix is more hooked.

This flea which was taken at Sandy, Clackamas County, Oregon (type locality) on June 23, 1942 off *Scapanus townsendi* (type host) is a true mole flea with range probably east of Willamette River in northern Oregon. The male is 2.50 mm. long, the female 3.00 mm.

The holotype and allotype are mounted on one slide bearing the writer's number 1934 and deposited in the U. S. National Museum. Paratypes are sent to Los Angeles Country Museum, British Museum and California Academy of Sciences. The new

flea bears the name of Major Robert Traub of the Army Medical Department.

CALIFORNIA: Because of the great works by Gus Augustson on fleas in central and southern California, the writer passed through this section only once, on his way to headquarters from southern Nevada. It was pure chance that in Kern County this early spring day a Nelson Ground Squirrel presented too good a mark to miss and when its fleas were examined there turned up a *Thrassis* with the most distinct finger the writer had ever seen. To commemorate the works of Augustson in this part of California the new flea shall be called

THRASSIS AUGUSTSONI, a new species

There is before the writer at this time only the holotype male. It belongs to that group of *Thrassis* which have the two modified bristles on the VIII sternite of the male, and seems to be close to *Thrassis gladiolis*. As stated above the finger is distinct both in shape and armature.

Modified Segments: The process of the clasper is typically *Thrassis*. The very characteristic finger might be described as being plow share shaped when viewed upside down. The posterior border is armed with, below, the usual 2 stout characteristic *Thrassis* bristles, followed above by a second pair of bristles not so stout, then a bristle much longer than the lower ones, then a weak bristle and then the usual very long one, which is a long way from the apex, the distance between studded with 3 or so equidistant minor bristles. VIII sternite not particularly prominent but armed with the usual curved, stout bristle at the apex and below it the 2 modified bristles which in this case are grass blade shaped. The IX sternite is apically angulate and armed with 3 short apical bristles and below them several much longer ones.

The writer did not secure the female.

The male is small, measuring only about 1.50 mm. in length. The type locality is east of Bakersfield in Kern County, California and the type host is Nelson's Ground Squirrel (*Citellus n. nelsoni*). It seems likely that this is a winter flea of Nelson's Ground Squirrel, so not turned up in plague investigations which are usually carried on at other seasons of the year. The range of the new flea may prove to be throughout the range of the type host. The holotype is mounted on a slide bearing the date March 28, 1948 and is deposited in the United States National Museum.

NEVADA. The next of the new fleas is a winter flea found on kangaroo rats and shall be called

THRASSOIDES HOFFMANI, a new species

This is the third of the strictly winter fleas of kangaroo rats to be described. Prince in 1944 described off kangaroo rats *Th. campestris* in the Great Plains region, *Th. aridis* in southern Arizona and the species before the writer at this time comes from west of the Rocky Mountains. These fleas appear in late fall on kangaroo rats and mice that frequent their range, become very abundant during winter and fade out during spring.

A good series lies before the writer at this time, the specimens personally collected. They come from the southern half of Nevada, east of Death Valley in California, in southwest Utah and northwest Arizona. The selected types are from Beatty, Nye County, Nevada.

Modified Segments: male. Process of clasper well rounded, dome shaped apically armed with a strong bristle and several weak ones. Finger not plump as in *campestris* and *aridis* but slender and about as long as process is high, slightly broader at base than tip, and apically tipped with the characteristic minute spiniform. Posterior border armed below with 2 long strong bristles, not short and stout as in Thrassis. Between these lower bristles sometimes a medium one. Above along margin another 2 long slender bristles, the uppermost the longest and close to the apex a small bristle. VIII sternite differing from *aridis* and *campestris* in being apically broad and flat, the armature consisting of 2 very heavy, longish bristles and 1 short bristle. Lower lobe of IX sternite rounded and armed with the 2 usual curved medium bristles and several minor bristles.

Female: The apical outline of the VII sternite of the female is variable. The small lobe on the slanting surface through its variation covers all stages from the small lobe of *aridis* to the expressed lobe in *campestris*. The armature consists of a posterior row of 8 major bristles and anterior to it a row of 4 medium bristles. The spermatheca is very large, and shaped more like that of *Opisocrostis idahænsis* rather than any Thrassis and can be described as, body slightly pear shaped, bulge of pear towards outlet, appendix well crooked, finger-like and terminally ending in well defined appendage.

This is the largest of the 3 winter fleas of kangaroo rats, the male measuring 2.75 mm., the female 3.00 mm.

The pair selected as types by the writer were taken at Beatty, Nye County, Nevada, which is the type locality, and the type host is designated as *Dipodomys deserti deserti* but the flea is usually at home on other kangaroo rats in its range.

The new flea probably ranges south of Walker Lake in Nevada

and adjacent California, Utah, and Arizona. West probably of Rocky Mountains and Colorado River north of Colorado Canyon, Arizona.

The holotype male and allotype female are mounted on one slide bearing the writer's number 2579, dated December 30, 1946, collected at Beatty, Nye County, Nevada, and deposited in the United States National Museum. Paratypes are deposited in all maintained depositories of the writer. The flea bears the name of Mr. Floyd Hoffman of Newberg, Oregon, long time friend of the writer and who has been instrumental in helping the writer secure many rare Oregon fleas from that part of Oregon.

The third of the new fleas is the southwest representative of the species *Monopsyllus wagneri* and shall be called

MONOPSYLLUS WAGNERI KYLEI, a new subspecies

There are before the writer at this time a good series of the new flea from east of Death Valley in California, and southern Nevada. Because it was first taken by the writer in Kyle Canyon, northwest of Las Vegas in the Spring Mountains of Clark County, Nevada, it is called *kylei*. The closest ranging subspecies is *Monopsyllus wagneri wagneri* which the writer has from some 300 miles to the north at Carson City, Nevada. *Kylei* is probably most closely related, then, to the prototype found in northern Nevada. The two fleas differ in the modified segments, these differences being: male, whereas the finger in *M. w. wagneri* is apically squarish, in *M. w. kylei* the apical part of the finger is dome shaped. Female, in *M. w. wagneri* the squarish lobe of the apical outline of the VII sternite is cut to the ventral by a well defined bay, this bay being found in specimens of *M. w. wagneri* all through the northwest. In *M. w. kylei* this bay is missing.

In all other features *M. w. kylei* is similar to *M. w. wagneri*.

The type locality is Kyle Canyon, Clark County, Nevada, the type host the Deer mouse, *Peromyscus maniculatus sonoriensis*. The writer has enough materials designated as paratypes that a male and female mounted on a single slide will be deposited in all his maintained depositories. The holotype male and allotype female are also mounted on a single slide which bears the writer's number 2396 and the collection date June 25, 1945, and is deposited in the United States National Museum.

UTAH and ARIZONA. The writer has taken *Thrassoides hoffmani* off kangaroo rats in December in southwestern Utah and northwestern Arizona. *Monopsyllus w. kylei* is also in the writer's collection from these localities off Deer Mice.

The 6 fleas described here as new bring to 32 the number of North American fleas described by the writer.

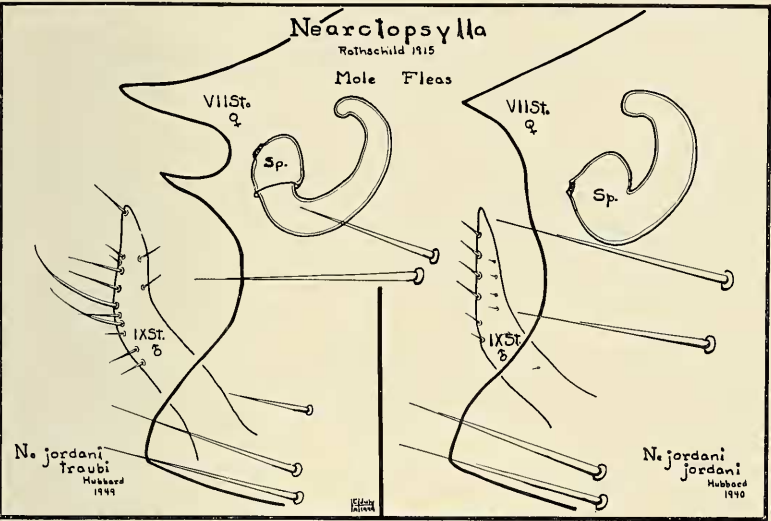


PLATE 5

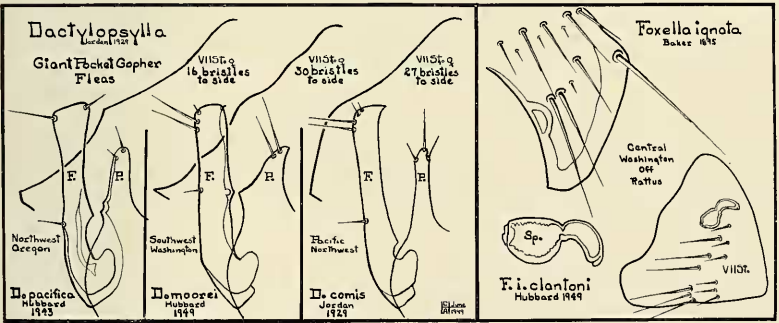


PLATE 6

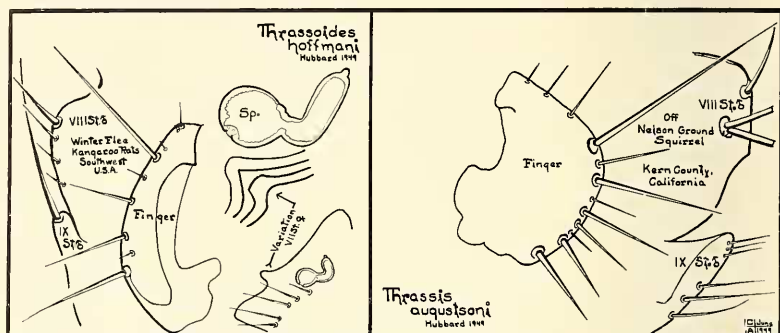


PLATE 7

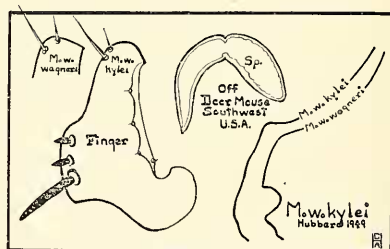


PLATE 8